

VIS Summary of Proposed Recommendations 12-13-18

Primary Recommendations

The Committee unanimously states its conviction that the following three primary recommendations to the Secretary are essential to delivering the benefits of improved pipeline safety and safety management systems through the use of a voluntary information sharing system. The Committee believes that if these primary recommendations are accepted and implemented, the Nation will reap the benefits of improved pipeline safety and pipeline safety management systems. The Committee also believes that if these primary recommendations are rejected or not realized, the VIS effort will not be successful.

Recommendation No.	Primary Recommendation
Primary Recommendation 1	Congress should authorize and stand up a VIS, to include participation by pipeline operators, PHMSA, and other pipeline safety stakeholders.
Primary Recommendation 2	Congress should enact legislation to provide confidentiality, non-punitive, and other legal protections to pipeline operators that participate in the VIS.
Primary Recommendation 3	Distribution System information sharing must be included in the VIS program if meaningful industry incident reduction is to be achieved.

Supporting Recommendations

The supporting recommendations will ensure that the VIS provides a comprehensive and practical approach to sharing information.

Recommendation No.	Supporting Recommendation
	Regulatory, Funding, Legal
Supporting Recommendation R-1	<p>Authorize and establish legislation for a VIS governance structure.</p> <p>Congress should enact legislation during the PHMSA reauthorization process in 2019 authorizing PHMSA to establish a secure, confidential Voluntary Information-Sharing System (VIS) for the purpose of encouraging the voluntary sharing of pipeline safety information by pipelines and distribution companies and their employees, labor unions, contractors, ILI vendors, and non-destructive evaluation experts, with PHMSA, representatives of state pipeline safety agencies, non-governmental organizations, and other pipeline stakeholders, for the purpose of improving pipeline safety for natural gas transmission, natural gas distribution and hazardous liquid pipelines. The proposed legislation should state clearly the intent of Congress with respect to the following:</p> <ul style="list-style-type: none"> a) The VIS is intended to be an entirely new paradigm for analyzing pipeline safety issues that is separate and apart from, but complementary and additive to, existing PHMSA pipeline safety programs, in particular Safety Management Systems b) The VIS should be established and implemented to the maximum extent possible under existing PHMSA authority, with the goal of avoiding unnecessary and time-consuming rulemaking. c) Other than with respect to the VIS incentives described below, the VIS is not intended to change current PHMSA enforcement, regulatory programs or other PHMSA initiatives. d) The VIS is intended to develop its own governance structure, and to create as many VIS programs as it deems necessary to address various areas of pipeline safety. e) The VIS is intended to allow PHMSA, all pipeline and distribution companies, and all pipeline stakeholders, to draw upon anonymous, de-identified safety related information that is currently

	<p>kept confidential and utilized by individual operators to improve pipeline safety, but which information is not otherwise shared due to confidentiality concerns.</p> <ul style="list-style-type: none"> f) The VIS system is intended to enable all industry participants to share the rich source of safety information often held only by an individual operator, which will enhance Safety Management Systems across the industry. g) The VIS system analysis of de-identified, voluntarily shared information is intended to deliver tangible, measurable safety benefits to industry participants, PHMSA, and other pipeline safety stakeholders. h) The VIS system's collaborative approach to collecting and analyzing safety related information is intended to enhance pipeline Safety Management Systems, delivering benefits to the public, including a reduction in pipeline releases and related personal injuries and damage to the environment. i) The VIS system is intended to be based solely on voluntary participation. The VIS system shall not be transformed into a mandatory program, in whole or in part. <p>The VIS is intended to encourage the widest possible participation by industry. Such participation will only be achieved by providing confidentiality protection for all information submitted to the VIS, along with the VIS incentives described below. It is the intent of Congress to ensure that those protections and incentives are in place. Without such assurance and incentives, operators will not voluntarily share information, thereby depriving the nation of associated improvements in pipeline safety and Safety Management Systems.</p>
<p>Supporting Recommendation R-2</p>	<p>Protect VIS Information from disclosure.</p> <p>Congress should enact legislation providing for the protection of safety, security-related, proprietary and other sensitive pipeline safety information provided to the VIS system, for the purpose of encouraging and allowing voluntary safety information sharing by industry. The proposed legislation should clearly state the intent of Congress with respect to the following:</p> <ul style="list-style-type: none"> a) It is intended that neither PHMSA, nor any federal, state, local or tribal agency, nor any person having or obtaining access to the information voluntarily submitted to the VIS system, shall release or

	<p>communicate that information to any person outside the VIS governing body, with the sole exception being the publication of reports by the VIS or PHMSA based on analysis of de-identified information and safety related findings that the VIS governing body in its sole discretion determines to publish or authorize PHMSA to publish.</p> <p>b) The intent of Congress is to encourage wide-scale industry participation in the VIS system by entities and individuals in order to further the goal of improving pipeline safety in the United States, and that goal can only be accomplished by creating strong confidentiality protections for information voluntarily submitted by those entities and individuals to the VIS system.</p>
Supporting Recommendation R-3	<p>Exempt VIS information from FOIA release.</p> <p>Congress should enact legislation providing that PHMSA shall be exempt from releasing under the provisions of the Freedom of Information Act any information that was voluntarily disclosed by any company, organization or person to the VIS.</p>
Supporting Recommendation R-4	<p>Incentives for Voluntary Sharing of Information.</p> <p>To encourage the voluntary submission of information to the VIS, Congress should enact legislation providing that neither PHMSA nor any other federal, state, local or tribal agency, nor any entity or person shall initiate enforcement action, punitive action, or litigation (Adverse Actions) against a pipeline operator based solely on information that has been voluntarily provided to the VIS. This prohibition is not intended to limit PHMSA or other parties from Adverse Actions against pipeline operators based on facts established independently and separate from the VIS process, with the exception of facts arising out of the VIS incentives outlined below, in which case no Adverse Actions shall be permitted.</p> <p>a) ILI, NDE and Dig Confirmation. Facts arising out of collaboration of the pipeline operator and its ILI and NDE vendors that are voluntarily reported to the VIS, including if the facts reveal a safety related condition or violation of the operator's procedures, would not subject to any Adverse Actions, provided that the operator promptly</p>

	<p>prepares and commences a written corrective action program within 30 days following discovery by the operator. In the event that PHMSA, or any other agency or party, during that 30-day period or at a later date, becomes aware of these facts through an inspection or otherwise, no Adverse Actions shall be taken, provided that the operator is preparing or implementing its corrective action program during the 30 day period, or thereafter has implemented or completed its corrective action program.</p> <p>b) Near Misses. Facts arising out of or relating to near misses that are voluntarily submitted to the VIS.</p> <p>c) Non-reportable Releases. Facts arising out of or relating to non-reportable releases that are voluntarily submitted to the VIS.</p> <p>d) Unusual Events or Conditions. Facts arising out of or relating to non-reportable unusual events or circumstances that are voluntarily submitted to the VIS.</p> <p>Operators are prohibited from taking any retaliatory action against its employees or contractors who report to the operator any potential violation of PHMSA regulations, or any matter that may be related to facts arising out of the incentive scenarios described above.</p>
Supporting Recommendation R-5	<p>Prohibit the use of VIS information in litigation. Congress should enact legislation providing that any information voluntarily submitted to the VIS shall not be subject to discovery or admitted into evidence in any federal, state, local, tribal, or private litigation or other proceedings. This prohibition does not limit discovery or admissibility into evidence in any civil or criminal proceedings based on facts independently and separate from the VIS process.</p>
Supporting Recommendation R-6	<p>Provide adequate and sustainable funding for the VIS. PHMSA should provide initial seed and sustaining funding. The Secretary in consultation with stakeholders should explore sustainable funding sources including private partnerships.</p>
Governance	
Supporting Recommendation G-1	Establish VIS Executive Board

	<p>There should be a VIS Governing Board. Decisions will be made by consensus of the Board and Co-Chairs. The Board will ultimately decide what consensus means. The Board will have the authority to develop its Governance documents and should oversee the enforcement of the Governance and supporting documents. The Board should have decision making authority over what issues are addressed by the Issue Analysis Teams. Issue Analysis Teams, Third-Party Data Provider, and outside experts may identify issues for consideration by the Board. The Board should appoint members to the issues analysis teams based on the content to be addressed. Board representation should be made up of the following stakeholder groups: PHMSA, pipeline operators, service providers, NAPSRS representatives, trade associations, public representatives, labor unions and universities. The PHMSA Administrator should appoint VIS Executive Board members after consulting with the stakeholder groups. The Board should be involved in the final decision on the third-party provider in accordance with the Federal Acquisition Regulations.</p>
Supporting Recommendation G-2	<p>Secure Third-Party Information Manager A Third-Party Data Manager should be managed by PHMSA in a Program Management Role and will be a private entity.</p>
Supporting Recommendation G-3	<p>Appoint an Issue Analysis Team Issue Analysis Teams should be appointed by the Executive Board and appointed with technical and subject matter experts in the area addressed.</p>
Supporting Recommendation G-3	<p>Authorize and Appropriate Funding for VIS Initial seed money should be provided from PHMSA and acquired through legislative appropriations and authorizations. Back-up funding should be from the Initial startup through DOT discretionary funding. Contributions from participants should be encouraged. The Executive Board should be charged with developing a long-term funding strategy to sustain VIS.</p>
Competence, Awareness, and Training	
Supporting Recommendation C-1	<p>Recommend that job descriptions be authored that define the education, knowledge, skills, abilities, and experience necessary for those working with confidential data and information. This will foster hiring criteria for third-party data administrator.</p>

Supporting Recommendation C-2	<p>Recommend that a process be established to pair VIS analytical staff with Pipeline Operator and other industry subject matter experts (SMEs), including in-line-inspection (ILI) companies and in-the-ditch (ITD) assessment companies. The collaboration is intended to ensure those analyzing the data understand industry lore and discuss meaningful data. An objective of establishing this work environment for this community of practice is to create meaningful reports and metrics such that stakeholders can expand their knowledge and learn the advantages and disadvantages of various types of in-line inspection technologies and methodologies. (Section 10 mandate)</p>
Supporting Recommendation C-3	<p>Recommend that an evaluation process be developed for employees working within the VIS (the “Hub”) to ensure they will:</p> <ul style="list-style-type: none"> • Protect data security • Preserve member anonymity and confidentiality <p>The executive board, a third-party data administrator, will mutually agree upon and authorize the evaluation process.</p>
Supporting Recommendation C-4	<p>Recommend that educational materials based on tenants of trust and leadership be developed to market the VIS with the intent to motivate and compel stakeholders to join. A primary objective is to find ways to encourage the exchange of pipeline inspection information which will lead to the development of advanced pipeline inspection technologies and enhance risk analysis. (Section 10 mandate).</p>
Supporting Recommendation C-5	<p>Recommend that initial training be developed to enable the development and implementation of VIS.</p> <p>Distinct Audiences to be trained:</p> <ul style="list-style-type: none"> • Those who input data and information (e.g. employees from ILI Companies, ITD Assessment Companies, Pipeline Operators, Public Advocacy Groups, Federal and State Community Liaisons ...) • Those who work within the system or “the Hub” and are exposed to identified data • Those who receive VIS output. It is the participants in these communities of practice that will expand their knowledge of the advantages and disadvantage of the different types of in-line

	<p>inspection technology and methodologies. (Section 10 mandate)</p> <ul style="list-style-type: none"> ○ Data Rich (ILI as-found versus as-called feature dimensions and feature signature calibration) ○ Information Rich (info sharing re: unwanted events and continuous improvement) ○ Regulatory Agencies (federal, state, local) ○ Portal for appropriate data available to the public <p>Types of Training:</p> <ul style="list-style-type: none"> • In-Person / Hands-On • Computer Based Training Modules • Train the Trainer <p>Recurring training that promotes the awareness of VIS and data security</p>
Supporting Recommendation C-6	<p>Recommend that training modules be developed that instruct participants the workflow processes and protocols as recommended by the Process Sharing sub-committee. These modules will likely be phased in as the VIS structure and workflow processes will take time to develop.</p> <ul style="list-style-type: none"> • Trainers could consist of SMEs from across the industry and regulatory agencies • Train participants' methodology for data submission to include types of input, how to input, format, et cetera. If a form for data and information submittal is created, train to the form. • Train confidentiality requirements as recommended by the Governance sub-committee. <ul style="list-style-type: none"> ○ Robust rules with degrees of separation to preserve anonymity <p>Training modules shall be successfully complete before being allowed to work within the 'data room'</p>
Supporting Recommendation C-7	<p>Recommend the development of training modules be tailored for the participants, specifically for those working with quantitative data and those working with qualitative information.</p>
Process Sharing	

Supporting Recommendation P-1	<p>Define and develop a community of practice that fosters the voluntary sharing and exchange of information related to integrity assessments and risk management.</p> <p>The term community of practice was selected to convey the importance of creating an environment where the stakeholders recognize the importance of information sharing and their interdependency. Each stakeholder group brings value that will improve the overall effectiveness of integrity assessments, managing risk and improving pipeline safety performance. Consider first building the community of practice with a “coalition of the willing,” that grows as successes are realized. Stakeholders should include operators, service providers, regulators, research organizations, organized labor and public representatives.</p>
Supporting Recommendation P-2	<p>Define the types and what information are to be shared to enhance integrity management including integrity assessments and risk management.</p> <p>More detail will be defined based on recommendations made by the Best Practices and Technology and Research and Development Subcommittees.</p>
Supporting Recommendation P-3	<p>Develop a plan (design) for an information sharing center, hereafter referred to as a voluntary information sharing hub.</p> <p>The VIS will share information defined in PS-2 among members of the community of practice define in PS-1 under governance defined by the Mission, Values and Governance Subcommittee.</p>
Supporting Recommendation P-4	<p>Adopt API RP 1163 as a starting framework for information sharing between operators and ILI service providers within the VIS HUB and foster its broader use.</p> <p>a. Operators should formalize their use of API RP 1163 with each of their service providers ensuring that learnings can be recognized, documented and shared.</p> <p>API RP 1163 provides a framework for operators and ILI service providers to work together to ensure that assessment results are valid and improvements in the use of ILI are identified. The Process Sharing Subcommittee found in discussions with operators and ILI service providers that RP 1163 is being used but there are opportunities to formalize and institutional its use within organizations and use it more broadly</p>

	<p>among organizations. The desired future state is one that reflects the integration among stakeholders creating the environment that fosters information sharing.</p> <p>The process can be improved, evolved and matured over time to present the learnings in a manner that data is searchable and can be analyzed using technology identified by the Technology and Research and Development Subcommittee.</p> <p>b. An operator's use of API RP 1163 should be evaluated and audited periodically in conformance with their implementation of requirements of API RP 1173, Section 10, Safety Assurance. Integrate the lessons learned process established herein into the management review process</p>
Supporting Recommendation P-5	<p>Develop a process for pipeline operators to share lessons learned from the planning, execution and evaluation of integrity assessments. The process may start with operators providing case studies (use cases) of their findings from use of API RP 1163 for ILI, or more generally, other assessment technologies in managing risk and pipeline integrity. The process should produce information on pipe and material properties, coatings, the environment around the pipe, why the assessment was conducted including which threats were being addressed and consequential benefits of the work as applicable. Required information is defined in recommendation x.x (developed by the Technology and Research and Development Subcommittee).</p>
Supporting Recommendation P-6	<p>Define the processes to be used in a VIS Hub to facilitate the sharing discrete data from integrity assessments using information management and sharing technology defined in recommendation x.x (developed by the Technology and Research and Development Subcommittee).</p>
Supporting Recommendation P-7	<p>Consider the evaluation of existing information sharing systems already in use for energy pipelines and select ones to adopt within the VIS Hub to accelerate development and maturity. For example, consider the system developed by PRCI as the foundation for</p>

	information sharing of ILI information among operators and service providers.
Supporting Recommendation P-8	<p>Develop a process for integrity assessment service providers to share lessons learned from the planning, execution and evaluation of integrity assessments; including in-line inspection, direct assessment, pressure testing and applications of other technology.</p> <p>The process may start with integrity assessment service providers providing case studies of their findings. The process can be improved, evolved and matured over time to present the learnings in a manner that data is searchable and can be analyzed using technology identified by the Technology and Research and Development Subcommittee. The process should produce information on pipe and material properties, coatings, the environment around the pipe, why the assessment was conducted including which threats were being addressed and consequential benefits of the work as applicable. Required information is defined in recommendation x.x (developed by the Technology and Research and Development Subcommittee).</p>
Supporting Recommendation P-9	<p>Develop a process for non-destructive evaluation (NDE) service providers to share lessons learned from the planning, execution and evaluation of integrity assessment excavations.</p> <p>The process should produce information on pipe and material properties, why the assessment was conducted including which threats were being addressed, the NDE methods used including reference to specific published methods and consequential benefits of the work as applicable. Required information is defined in recommendation x.x (developed by the Technology and Research and Development Subcommittee).</p> <p>The process can be improved, evolved and matured over time to present the learnings in a manner that data is searchable and can be analyzed using technology identified by the Technology and Research and Development Subcommittee.</p>
Supporting Recommendation P-10	<p>Define a process for disseminating lessons learned:</p> <p>a. For operators and identify the operator organizations to receive the Lessons Learned,</p>

	<p>including AGA, AOPL, APGA, API, INGAA, as well as PRCI, GTI, NYSEARCH.</p> <p>b. For government stakeholders and agencies to receive the Lessons Learned, including PHMSA, state and local pipeline safety regulatory authorities. Define why and how the information shared with these organizations is different that the organizations in recommendation x.x. Examples include ...</p> <p>c. For public stakeholder organizations to receive the Lessons Learned, including organized labor and public interest groups such as the Pipeline Safety Trust and the Pipeline Safety Coalition, as well as interested Federal, state and local officials. Define why and how the information shared with these organizations is different that the organizations in recommendation x.x. Examples include ...</p>
Supporting Recommendation P-11	Consider development and periodic update of an Integrity Assessment [Management] Compendium to share the state of the art with regard to integrity assessment technology, risk assessment, including data integration, and NDE technology.
Technology/R&D	
Supporting Recommendation T-1	<p>Adopt a API RP 1163 Framework for Information Sharing</p> <p>The Committee recommends adopting API RP 1163 as a starting framework for information sharing between operators and ILI service providers within the VIS Hub and foster its broader use.</p>
Supporting Recommendation T-2	<p>Develop a Process for Pipeline Operators to Share Integrity Assessment Lessons Learned</p> <p>The Committee recommends that for a pipeline safety VIS to be effectively implemented, a process should be developed for pipeline operators to share lessons learned from the planning, execution and evaluation of integrity assessments.</p>
Supporting Recommendation T-3	<p>Define Processes to Share Discrete Integrity Assessment Data</p> <p>To effectively implement a VIS the Committee recommends that processes be defined to facilitate the sharing of discrete</p>

	data from integrity assessments using information management and sharing technology defined in the Information Technology System Architecture and Best Practices section below.
Supporting Recommendation T-4	<p>Evaluate Existing Information Sharing Systems in Use</p> <p>The Committee recommends the evaluation of existing information sharing systems already in use for energy pipelines and select ones to adopt within the VIS Hub to accelerate development and maturity. For example, consider the initiative outlined below, under development by PRCI to be the foundation for sharing of pipeline information among its membership.</p>
Supporting Recommendation T-5	<p>Develop a Process for Integrity Assessment Service Providers to Share Lessons Learned.</p> <p>The Committee recommends development of a process whereby integrity assessment service providers can share lessons learned from the planning, execution and evaluation of integrity assessments; including in-line inspection, direct assessment, pressure testing and applications of other technology.</p>
Supporting Recommendation T-6	<p>Develop a Process for NDE Service Providers to Share Lessons Learned</p> <p>The Committee recommends the development of a process whereby NDE service providers can share lessons learned from the planning, execution and evaluation of integrity assessment excavations. The process should produce information on pipe and material properties, why the assessment was conducted including which threats were being addressed, the NDE methods used including reference to specific published methods and consequential benefits of the work as applicable.</p>
Supporting Recommendation T-7	<p>Define and Develop a Community of Practice</p> <p>To ensure that broad participation from the industry and other stakeholders is encouraged and continues, the Committee recommends defining and developing a community of practice that fosters the voluntary sharing and exchange of information related to integrity assessments and risk management. The term community of practice was selected to convey the importance of creating an environment where the stakeholders recognize the importance of information sharing and their interdependency. Each stakeholder group brings value that will improve the overall effectiveness of integrity assessments, managing risk and improving pipeline safety</p>

	performance. Stakeholders should include operators, service providers, regulators, universities and research organizations, organized labor, and public safety advocates.
Supporting Recommendation T-8	<p>Consider Conforming to Industry Recommended Practices and Standards to Standardize the Sharing of Qualitative and Quantitative Data</p> <p>In design and development of the VIS system, consideration should be made to conformance to industry recommended practices/standards for standardizing the sharing of qualitative pipeline data (such as lessons learned) and quantitative data (such as in-line inspection results compared to in the ditch findings). Industry recommended practices and standards already represent best practice consensus among the industry stakeholders and include common and consistent terms, definitions, nomenclatures, data types, data formats, procedures and process flows.</p>
Supporting Recommendation T-9	<p>Consider Design and Implementation Requirements for Input Validation for System Quality and Consistency.</p> <p>Implementation of a VIS should consider the mechanisms and associated requirements for input validation, to ensure quality, and consistency for ingestion into ‘the system’. This includes data validation that ensures the appropriate quality needed for meaningful analysis. This is necessary for the analyses to produce trustworthy lessons learned and trends that lead to continuous improvements and research and development. As data validation will ensure quality and overall trust in the input(s) delivered, it will also enable a tiered approach to quantify the quality/trust whereby the applicable learnings can be warranted and followed up on accordingly for applicable lessons learned and/or continuous improvement. This can be envisioned in a few different ways, including conformance to industry recommended practices/standards; having a dedicated resource (personnel) to vet the information prior to ingress into the system; and, automated routines of the architecture/IT for ingress into ‘the system.’</p>
Best Practices	
Supporting Recommendation B-1	<p>A Voluntary Information Sharing system for the energy pipeline industry should not be limited specifically to pipeline in-line inspection data. Considerable value and safety improvement is possible if the sharing is expanded to include all of the elements of an integrity management process including data, information and knowledge relative to the process steps as well as lessons learned from</p>

	incidents or process improvements, technology deployment practices and solutions to common problems.
Supporting Recommendation B-2	A Voluntary Information Sharing system for the energy pipeline industry should leverage existing practices, processes, procedures and governance models currently being utilized within the pipeline industry as well as those in other industries.
Supporting Recommendation B-3	A Voluntary Information Sharing system for the energy pipeline industry should complement, build upon, and/or leverage existing information sharing that currently occurs at the operator level, within industry associations or between Operators and Service Providers. The VIS should provide a means to share information, knowledge and solutions relative to high value learning events from existing industry efforts and programs for the benefit of all Operators (regardless of affiliation or not with specific associations or interest groups) and broader audiences or stakeholders.
Supporting Recommendation B-4	A Voluntary Information Sharing system for the energy pipeline industry should provide a framework of best practices found in other information sharing contexts or industries to manage the sharing context and include fundamental elements found in various other businesses or entities including but not limited to:
Supporting Recommendation B-5	A Voluntary Information Sharing system for the energy pipeline industry should provide for transparency and communication of industry capabilities, processes, procedures, technologies, improvements and safety results relative to the value that the sharing process generates.

